

Remarks

Claims 1, 2, 5-8, and 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable in view of U.S. Patent No. 6,643,292 to Chapman et al. and U.S. Published Patent Application 2003/0103450 to Chapman et al.; claims 3, 4, 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over the '292 patent, the '450 application and U.S. Patent No. 5,491,801 to Jain et al. and U.S. Patent No. 6,646,987 to Qaddoura; claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over the '292 patent, the '450 application and U.S. Patent No. 4,771,391 to Blasbalg; and claim 47 stands rejected under 35 U.S.C. § 103 as being unpatentable over the '292 patent, the '450 application and U.S. Patent No. 6,820,128 to Firoiu et al.

With this paper, claim 1 is amended to recite “monitoring at a server the traffic for a plurality of TCP connections or UDP associations through a given network path.” A similar amendment is made to claim 7. Support for these changes can be found in paragraph 27 of U.S. Published Patent Application 2002/0141341. Further, claim 47 is amended to recite “monitoring at a source the traffic for the plurality of TCP connections or UDP associations through a given network.” Support for this amendment can be found in paragraph 47 of U.S. Published Patent Application 2002/0141341. New claim 48 has been added. Support for claim 48 can be found in paragraph 47 of U.S. Published Patent Application 2002/0141341. No new matter is involved.

Claim 1 recites:

A method in a data processing system for managing traffic in a network data processing system, the method comprising:

monitoring at a server the traffic for a plurality of TCP connections or UDP associations through a given network path; and

prior to sending a packet on a particular TCP connection or UDP association within the plurality of TCP connections or UDP associations, determining if the packet will cause the traffic for the network path to exceed a level of traffic allowed and, if the packet will cause the traffic for the network path to exceed the level of traffic allowed, reducing the traffic for one of the particular TCP connection or UDP association and another TCP connection or UDP association using an action based on a transmission protocol corresponding to the one TCP connection or UDP association.

Claim 7 recites:

A method in a data processing system for managing traffic in a network data processing system, the method comprising:
monitoring at a server traffic for each of a plurality of TCP connections or UDP associations through a given network path; and
prior to sending a packet on a selected TCP connection or UDP association within the plurality of TCP connections and UDP associations, determining if the packet will cause the traffic for the network path to exceed a threshold and, if the packet will cause the traffic for the network path to exceed the threshold, further determining if the packet will cause the traffic for the selected TCP connection or UDP association to exceed its fair share amount of the network path and if so, reducing the traffic for the selected TCP connection or UDP association using an action based on a transmission protocol corresponding to the selected TCP connection or UDP association.

As noted above, claims 1, 2, 5-8, and 46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable in view of U.S. Patent No. 6,643,292 to Chapman et al. and U.S. Published Patent Application 2003/0103450 to Chapman et al.; claims 3, 4, 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over the '292 patent, the '450 application and U.S. Patent No. 5,491,801 to Jain et al. and U.S. Patent No. 6,646,987 to Qaddoura; claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over the '292 patent, the '450 application and U.S. Patent No. 4,771,391 to Blasbalg; and claim 47 stands rejected under 35 U.S.C. § 103 as being unpatentable over the '292 patent, the '450 application and U.S. Patent No. 6,820,128 to Firoiu et al.

Nowhere does the '292 patent or the '450 application disclose, prior to sending a packet on a particular TCP connection or UDP association within a plurality of TCP connections or UDP associations, determining if the packet will cause the traffic for a network path to exceed a level of traffic allowed, as required by independent claim 1, or prior to sending a packet on a selected TCP connection or UDP association within the plurality of TCP connections and UDP associations, determining if the packet will cause the traffic for a network path to exceed a threshold, as required by independent claim 7. The '292 patent teaches encapsulating one or more sets of customer data and sending the encapsulated data using conventional TCP algorithms using inherent TCP capabilities, see column 6, lines 58-61 and column 7, lines 18-30.

Conventional TCP algorithms do not determine, prior to sending a packet on a particular TCP connection or UDP association within a plurality of TCP connections or UDP associations, if the packet will cause the traffic for a network path to exceed a level of traffic allowed. Conventional TCP algorithms also do not determine, prior to sending a packet on a selected TCP connection or UDP association within a plurality of TCP connections and UDP associations, if the packet will cause the traffic for the network path to exceed a threshold. The '450 application teaches using "priority-based bandwidth allocation *** at any of the routers in order to allocate outgoing bandwidth between two classes of traffic," see paragraph 105. Nor do Jain et al., Firoiu et al., Qaddoura, or Blasbalg disclose, teach or suggest these aspects of the present invention.

The Office Action states on page 3:

Chapman '292 further discloses prior to sending a packet on a particular TCP connection determining if the packet will cause traffic for the network path to exceed the level of traffic allowed, and if so, performing a congestion control function for the traffic of the particular TCP connection using an action based on TCP transmission protocol (See column 8, lines 21-54 of Chapman '292 for reference determining that a particular packet will cause a TCP trunk to exceed its guaranteed minimum bandwidth before it is sent and for reference to, if the packet will cause the TCP trunk to exceed its guaranteed minimum bandwidth, marking the packet with a lower priority indicating it is discardable to perform congestion control for the traffic of the TCP connection).

The '292 patent teaches in column 8, lines 35-44:

Accounting at the access point would use a moving average over some window of time. At any time when the average rate achieved is less than the allocated minimum, the access point would mark the packets with a higher delivery priority. For traffic sent opportunistically after the minimum is met the packets would be marked as lower priority for delivery and therefore discardable. If the allocations of bandwidth over the network are done conservatively then the higher priority packets should rarely be discarded.

Hence, the '292 patent teaches, when the average rate achieved is less than the allocated minimum, the access point marks the packets with a higher delivery priority. Also, if the traffic

sent occurs when the average rate is above the allocated minimum, the packets are marked as a lower priority for delivery and therefore discardable. Marking a packet as a lower priority for delivery such that it is discardable when the average rate is above the allocated minimum does not result in a reduction of the traffic for a network path when the packet will cause the traffic for the network path to exceed a level of traffic or threshold allowed. Nor does it cause traffic for a TCP connection to be reduced in anyway whatsoever, and, in any event, does not cause traffic for a TCP connection to be reduced as required by claims 1, 7. Claim 1 in the subject application requires that prior to sending a packet on a particular TCP connection or UDP association within a plurality of TCP connections or UDP associations, determining if the packet will cause the traffic for a network path to exceed a level of traffic allowed, and if so reducing the traffic. Claim 7 in the present application requires that prior to sending a packet on a selected TCP connection or UDP association within the plurality of TCP connections and UDP associations, determining if the packet will cause the traffic for a network path to exceed a threshold, and, if the packet will cause the traffic for the network path to exceed the threshold, further determining if the packet will cause the traffic for the selected TCP connection or UDP association to exceed its fair share amount of the network path and if so, reducing the traffic for the selected TCP connection or UDP association. Nowhere does the '292 patent teach determining if a packet will cause the traffic for a network path to exceed a level of traffic allowed and if so effecting traffic reduction. Instead, in the '292 patent, the transmission rate is only reduced after a packet has first been sent by the sending node, discarded and the sending node detects that the packet has been discarded such that the sending node reduces the transmission rate, see column 7, lines 10-20.

The Office Action further states on page 5:

With respect to claims 1, 7 and 46, Chapman '450, in the field of communications, discloses reducing the traffic for a specific connection if it is determined that a level of traffic allowed for the connection will be exceeded (See the abstract and page 7 paragraphs 107-108 of Chapman '450 for reference to reducing traffic by stopping the sending of packets for a logical flow if it determined that a maximum bandwidth level has been reached for the logical flow).

Chapman '450 teaches using "priority-based bandwidth allocation *** at any of the routers in order to allocate outgoing bandwidth between two classes of traffic." Nowhere does the '450 application disclose, teach or suggest prior to sending a packet on a particular TCP connection or UDP association within a plurality of TCP connections or UDP associations, determining if the packet will cause the traffic for a network path to exceed a level of traffic allowed, as required by independent claim 1, or prior to sending a packet on a selected TCP connection or UDP association within the plurality of TCP connections and UDP associations, determining if the packet will cause the traffic for a network path to exceed a threshold, as required by independent claim 7. Instead Chapman '450 monitors at a router along a network.

Accordingly, it is submitted that the Jain et al. patent, the Chapman et al. patent, the Chapman et al. application, the Qaddoura patent and the Blasbalg patent, whether taken singly or in combination, do not disclose, teach or suggest the subject matter set out in claims 1-10, 12, 46, 47 and 48.

In view of the above remarks, applicants submit that claims 1-10 and 12, 46, 47 and 48 define patentably over the prior art. Early notification of allowable subject matter is respectfully requested.

Respectfully submitted,
Stevens & Showalter, L.L.P.

By /Robert L. Showalter/
Robert L. Showalter
Registration No. 33,579

7019 Corporate Way
Dayton, OH 45459-4238
Telephone: 937-438-6848
Fax: 937-438-2124
Email: rshowalter@sspatlaw.com

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